

Claims

1. A method of abandoning a well, said well comprising at least two
5 concentric conduits defining a main bore and at least one annular chamber
there between, comprising the steps of:

providing a perforation in one or more of the conduits,
10 pumping out the fluid from the annular chamber and/or main bore to
create a fluid-free void,

inserting sealing material in the annular chamber and/or main bore to
seal it/ them.
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2. A method according to claim 1 wherein sealing material is inserted
into the bore of the innermost conduit to seal it.

3. A method according to either claim 1 or 2 wherein a tube is introduced
20 and the fluid pumped to the surface through the tube.

4. A method according to either claim 1 or 2 wherein the fluid is pumped
downwards into the well.

25 5. A method according to any previous claim wherein the sealing
material is inserted in the annular chamber before the fluid from the annular
chamber is pumped out.

30 6. A method according to any previous claim wherein perforations are
formed in at least one conduit and the annular chamber or chambers are
sealed at one level in the well, and then further perforations are formed in a
greater number of conduits at a second higher level in the well.

7. A method according to claim 6 wherein after forming the further perforations in the greater number of conduits at the second higher level, the annular chambers between these conduits are sealed.

5 8. An apparatus for abandoning a well having at least two concentric conduits defining at least one annular chamber there between, the apparatus including a pump and a perforation forming device.

10 9. An apparatus according to claim 8 wherein there is also provided a valve unit capable of securing itself in an innermost conduit and including a check valve to permit the one-way flow of fluids.

10. An apparatus according to either of claims 8 or 9 wherein the pump and the valve unit are separable.

15 11. An apparatus according to any of claims 8 to 10 wherein there is provided a cable on which the pump may be lowered into the well.

20 12. An apparatus according to any of claims 8 to 11 wherein the perforation forming device is incorporated into the pump.

13. An apparatus according to any of claims 9 to 12 wherein the perforation forming device is incorporated into the valve unit.

25 14. An apparatus according to any of claims 11 to 13 wherein the cable includes a through bore.

15. A method or apparatus substantially as herein described and illustrated.